Updating the taxonomy of Aspergillus in South Africa

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It is well known that South Africa is a biodiversity hotspot with many new fungi described each year. This is also true for Penicillium with 29 new species, isolated from a handful of sampling sites, introduced the last few years. The ability to describe these new Penicillia is partly due to the nomenclatural review and subsequent reference sequence dataset released for ex-type Penicillium strains in 2014. A similar database exists for Aspergillus, Penicillium's sister genus. Aspergillus is commonly encountered in South Africa, but is grossly neglected. Most identifications are still morphology based, but this is very difficult, inconsistent and thus unreliable. As such we know very little on what Aspergilli truly occur in South Africa. The economic importance of Aspergillus, combined with their diverse nature, necessitate local knowledge to be brought into the modern era. The PPRI of the National Collection of Fungi currently has 499 Aspergillus cultures, all isolated from South Africa. It represents the best resource for getting a good baseline knowledge of these genera across the country, as strains originate from a wide source of habitats and ecological regions. This project aims to expand, document and disseminate our understanding of the diversity and distribution of Aspergillus in South Africa. This will be achieved by sequencing the PPRI strains' secondary identification marker calmodulin, and for new or rare species the ITS DNA barcode also. Identifications will be updated in the collection database, descriptions and illustrations provided for new species publications, and data released to GenBank, Biobank, SANBI, FBIP and other relevant repositories.